

ABSTRACT

A method for forming a semiconductor device having a reduced pitch is provided. A pad oxide layer is formed on a substrate, and a silicon nitride layer is formed on the pad oxide layer. A trimmed photoresist layer is formed on the silicon nitride layer, and the silicon nitride layer is etched using the trimmed photoresist layer as an etch mask. The trimmed photoresist layer is removed until the silicon nitride layer is completely exposed, and an exposed portion of the pad oxide layer is removed until a portion of the substrate is exposed. A gate oxide layer is formed on the exposed portion of the substrate. A poly layer is deposited on the silicon nitride layer, and the poly layer is etched back to form a plurality of poly gates. Then, the silicon nitride layer is removed.